Addendum

$\vec{n} + p \rightarrow d + \gamma$ Proposal

July 29, 1998

These tables replace those in Appendix A of the proposal. The costs have been updated and the costs of the $\vec{n} + p \rightarrow d + \gamma$ experiment and the cold neutron beam line are now displayed in separate tables. In addition, all costs are now shown with burden included.

Item	Cost ($k)	Institution	Status
Signal Processing	98	LANL	Design, prototype testing
Data Processing	69	LANL	DAQ software development
Detector	603	KEK	4 crystals ordered, CsI and tube testing
^{3}He Polarizer	192	Michigan	Preliminary design, test of concepts
Super Mirror Polarizer	52	NIST	Backup for ^{3}He, sources contacted
Spin Flipper	31	LANL	Prototype in fabrication
Spin Transport	33	Berkeley	Design, spin transport modeling
LH_2 Target	287	NIST	Conceptual design, preliminary quotes
Beam Monitor	10	Indiana	Preliminary design
Total	1375		

Table 1: Itemized capital equipment budget for the $\vec{n} + p \rightarrow d + \gamma$ experiment. Status of the item and the responsible institute is also indicated.

Item	Cost ($k)	Institution	Status
Shielding	347	LANL	MCNP calculations, design
Clean Power and Grounds	48	LANL	Preliminary design
Neutron Transport	1275	LANL	Design collaboration with LANSCE
Technician (0.5 FTE)	87	LANL	
Total	1757		

Table 2: Itemized capital equipment budget for the cold neutron beam line. Status of the item and the responsible institute is also indicated.

Item	Costs ($k)	Proposed Funding Sources		
		DoE New ($k)	NSF New ($k)	Collaboration ($k)
Signal Processing	98	91		7*
Data Processing	69	69		
Detector	603	493		45* + 65†
^{3}He Polarizer	192	164		28‡
Super Mirror Polarizer	52	52		
Spin Flipper	31	0		31*
Spin Transport	33			33§
LH_2 Target	287	118	130¶	27* + 12¶
Beam Monitor	10	4		6¶
Total	1375	991	130	254

*LANL
†KEK
‡Michigan
§Berkeley
¶Indiana

Table 3: Proposed funding sources for the $\vec{n} + p \rightarrow d + \gamma$ experiment.

Item	Costs ($k)	Proposed Funding Sources		
		DoE New ($k)	NSF New ($k)	Collaboration ($k)
Shielding	347	217		130*
Clean Power and Grounds	48	48		
Neutron Transport	1275	1034		241*
Technician (0.5 FTE)	87	87		
Total	1757	1386		371

*LANL

Table 4: Proposed funding sources for the cold neutron beam line.

Year (FY)	Capital Equipment ($k)	DoE ($k)	NSF ($k)	Collaboration ($k)	Operations ($k)
1998	98	0	0	98	0
1999	419	254	65	100	0
2000	858	737	65	56	0
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	0	0	0	0	0
Total	1375	991	130	254	0

Table 5: Projected profile for the capital equipment and operations budget for the $\vec{n} + p \rightarrow d + \gamma$ experiment.

Year (FY)	Capital Equipment ($k)	DoE ($k)	NSF ($k)	Collaboration ($k)	Operations ($k)
1998	436	65	0	371	0
1999	1321	1321	0	0	0
2000	0	0	0	0	0
2001	0	0	0	0	0
2002	0	0	0	0	0
2003	0	0	0	0	0
Total	1757	1386	0	371	0

Table 6: Projected profile for the capital equipment and operations budget for the cold neutron beam line.